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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 1999/M 209	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/02207	International filing date (day/month/year) 13 March 2000 (13.03.00)	Priority date (day/month/year) 23 March 1999 (23.03.99)
International Patent Classification (IPC) or national classification and IPC A01N 25/02		
Applicant AVENTIS CROPSCIENCE GMBH		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input checked="" type="checkbox"/> Certain defects in the international application</p> <p>VIII <input checked="" type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 15 September 2000 (15.09.00)	Date of completion of this report 08 May 2001 (08.05.2001)
Name and mailing address of the IPEA/EP  Facsimile No.	Authorized officer:  Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP00/02207

## I. Basis of the report

1. This report has been drawn on the basis of (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

☐ the international application as originally filed.

☒ the description, pages 1-25, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. 1-13, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims		YES
	Claims	1-13	NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

**2. Citations and explanations**

Reference is made to the following documents:

D1: WO-A-91/06215,

D2: FR-A-2 599 593,

D3: Beilstein 1, IV, 1531.

A copy of D3 is appended to this report.

The present application pertains to surfactant/solvent systems for liquid organic formulations containing one or more surfactants having a base of aromatic compounds and solvents in the form of polar, completely esterified organic phosphates and/or phosphonates having low water-solubility. Furthermore, it pertains to liquid formulations containing the above-mentioned, a method for the production thereof, a method for controlling unwanted plant growth, and the use of said systems in liquid preparations of active substances.

**1. Novelty (PCT Article 33(2).)**

**1.1** The present Claim 1 pertains to mixtures consisting

of at least two components, namely (a) aromatic surfactants and (b) solvents in the form of completely esterified organic phosphates and/or phosphonates. Said phosphorus-containing compounds have (c) a maximum water-solubility of 5 g/l.

- 1.2 Document D1 discloses liquid herbicidal agents based on emulsion concentrates. These agents contain a plurality of components a) to e). Components (c) are specified as being, for example, esters of orthophosphoric acids with alcohols, diols, or polyols (page 5, first paragraph). It is assumed that at least a part of the esters formed from the specified alcohols have a water-solubility of less than 5 g/l (see under b2.1, page 9 of the present description). Tri-n-butyl ester is cited as an example of a specific representative. This compound is also disclosed in Example 2 on page 9. According to the statements in Beilstein, 1, IV, 1531, said compound has a solubility of only 0.39 g/l at 25°C. Herewith, the feature of water-solubility of up to 5 g/l appears to be met. Compounds from the alkylphenolpolyglycolether and alkanolpolyglycolether groups preferably fall under components (e) (page 6, first paragraph, surface-active agent, surfactant). Furthermore, especially nonylphenols with 20-200 ethylene oxide units are stressed as ethoxylated alkylphenols (page 6, lines 15-16). Said compounds fall under "surfactants based on aromatic compounds" according to the present Claim 1. Therefore, it appears that surfactants/solvent systems having the characteristics according to the present Claims 1 to 8 are known to a person skilled in the art from D1. In light of D1, the subject matter of the present

Claims 10 to 13 can likewise not be regarded as novel (PCT Article 33(2)).

- 1.3 Document D2 discloses compositions which, in addition to a herbicide from the biscarbamate group (phenmedipham, desmedipham, page 1, lines 15-21), also contain tributylphosphate (page 2, last line) and a surfactant. The examples disclose compositions that contain phenmedipham, tributylphosphate, and polyalkoxylated nonylphenol as surfactant. The subject matter of the present Claims 1 to 3 and 6 to 13 is hereby likewise anticipated in a manner prejudicial to novelty (PCT Article 33(2)).

2. Inventive step (PCT Article 33(3))

At present, it is not clear which feature to be newly incorporated into the claims would fulfil the requirement for novelty. Nor does the present application show clearly upon which features an inventive step is to be based. Therefore, the present claims do not fulfil the requirements of PCT Article 33(3).

3. Industrial applicability (PCT Article 33(4))

Is established for Claims 1 to 13.

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**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description does not cite D1 or indicate the relevant prior art disclosed therein..

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The present application does not fulfil the requirements of PCT Article 6, since the subject matter of various claims does not fulfil the requirements for clarity:

1. In Claim 1, the solvents are specified as "phosphates and/or phosphonates that are as polar as possible". However, no chemical compound can be defined with the phrase used.
2. The present Claim 4 refers several times to "primarily water-insoluble" compounds, thereby rendering the definition of the subject matter of the claim likewise unclear.
3. In the present Claim 2, reference is made to "suitable" bases. However, it is not apparent for what these bases are especially suited; therefore, the subject matter of the claim remains unclear.
4. It is evident from D3 that the water-insolubility of phosphoric acid esters changes greatly according to temperature. Therefore, the parameter specified in the present Claim 1, "water-soluble up to 5 g/l", lacks clarity under PCT Article 6.